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THE JOURNAL OF PHILOSOPHY

## NOVELTY AND CONTINUITY[1]

WHATEVER else people have said about the natural and the supernatural worlds, all agree that they are discontinuous with each other. Aristotle criticized Plato's view chiefly because it meant that forms could exist apart from the actual changing world. Apparently Aristotle believed that forms had no ontological status apart from matter, and for that reason he may have been more of a naturalist than Plato. But we find that Aristotle, like Plato, was unable to conceive of matter apart from the qualitative forms which it was capable of receiving. He defined matter as pure potentiality, or in terms of the forms it could receive after change had taken place, but he could not state the nature of matter independently of qualitative forms or independently of final causes. Of course, Democritus, like Aristotle, thought of himself as a naturalist; but he was at the other extreme. He could not attribute existence to the Aristotelian forms, but worst of all neither could he give a statement of atoms in such a way that they could belong to a deductive system; so, as Aristotle so shrewdly observes, Democritus had nothing left to talk about and the expression "atoms and the void" was meaningless. For this reason Aristotle rejected "material atomism" and defined matter, not in terms of what it is by itself but in terms of the forms that somehow attach to it—or in terms of final causes. When Aristotle conceives of matter in terms of the forms it is capable of receiving and assumes that it can be known only by means of forms, by implication he is saying forms are the objects of knowledge and are more real than matter. And when Democritus conceives of qualities and sense experiences as perturbations of the soul, he is placing matter above forms in his metaphysical system. Hence, although both Democritus and Aristotle were naturalists, both were reductionists also. They "reduced" reality to one kind of entity. (Obviously these are metaphysical statements, and many of us do not like to use the words "real" and "reality." Yet it is difficult to avoid this usage when speaking of the philosophies of metaphysicians, and most of us, at times at least, are metaphysicians.) Like many moderns, Aristotle and Democritus assumed

[1] Presidential address delivered December 20, 1949, at the annual meeting of the Southwestern Philosophical Conference at the University of Texas, Austin, Texas.

that in explaining anything, only a few basic categories are necessary, and these categories, or the means by which we explain and know, refer to what is changeless and, therefore, real. Hence to explain something is to reduce it to, or express it in terms of, something basically more real; e.g., some say biological processes are "really" only physico-chemical processes. It may be reasonable to assume that what these two ancient scientists held in common, namely, that the real world consists of one kind of stuff, and finally of the "changeless," determined a prevalent doctrine in modern scientific thought, the doctrine of reductionism.

From the metaphysical standpoint, the reductionist is a monist, for he believes there is one kind of reals (reality) and that all reals are changeless—impervious to time. From the epistemological standpoint, the reductionist assumes (1) the objects of knowledge are these metaphysical reals, and (2) the relationship between the objects of knowledge, or these reals, can be stated logically, for it is believed that these reals constitute a strictly deductive system. Back of these assumptions is the hidden belief that the ontological structure of the objective world is identical with the structure of formal logic, or, to put it otherwise, epistemology and formal logic give us the key to metaphysics. The reductionist will have achieved his goal when he is able to state the world as a purely deductive system in which all future events are predictable on the basis of what is present, and in which all effects are stated in terms of their pasts, their history, and in which, finally, every new thing is made familiar and is "explained" by showing that it is exactly like what it came from. In this way the reductionists save both the thesis that everything present is continuous with the past, and the thesis that every phenomenon is intelligible.

The doctrine of reductionism has indeed given rise to one of the most pressing problems in contemporary philosophy of science—the problem of showing that although there are different kinds or different levels of existents, yet they are continuous with each other. I take it that the burden of naturalism is to show that qualitatively different kinds of objects and qualitatively different kinds of processes are nevertheless causally related and are, therefore, continuous with each other. For all naturalists, discontinuity means extra-naturalism or supernaturalism. But how can we defend the principle of continuity without reducing all things to one kind and without assuming that the world is a strictly deductive system? And on the other hand how can we state the relationship between different kinds of processes without introducing extra-naturalism?

My thesis is that explanation belongs directly to methodology and involves metaphysics only indirectly. We explain an experi-

enced object (and happening), not by reducing it to a basic kind of reality, but by showing how that object is spatially and temporally (causally) related to other objects or processes in its environment, although these other objects or processes may be unlike the object explained. This means that explanation and knowing are motivated by practice and not by the reductionist's desire to see all events as an unfolding of what is enfolded, nor by his hope to show that time is simply a catalytic agent necessary for making explicit what was logically implicit from the foundations of the world.

This view means that although qualitatively different existents are functionally related to each other, they can not be assimilated to each other, and that if the task of metaphysics is, through analysis, to discover ultimately real, underlying entities or essences, then metaphysics should be distinguished from scientific method. It is our belief that the experimental phase of scientific method, coupled with the theory of emergent evolution, underwrites our assumption that the factual world can not be expressed in a purely logical deductive manner, and also that reduction is unwarranted. If we were to assume, as apparently Aristotle and most other logicians have done, that there are universal laws of logic or "laws of thought" which determine in advance what the world must be like, then we would be saying that we can know the basic structure of the world of events independently of experience and, therefore, on *a priori* grounds alone. Certainly this assumption would not be consistent with the thesis that the development of logic and the basic categories is continuous with experience. Rather we hold that formal logic has no such implications for ontology, that the theory of evolution is consistent with the scientific method and explanation and, consequently, that in the world of fact there is both novelty and continuity.

However, before developing this thesis further it might be well to ask ourselves these questions: (1) How does it come that the hard-headed early modern scientists identified science with materialism and mechanism, thereby rejecting Aristotle and embracing Democritus? And (2) how does it come today that naturalists and philosophers of science purport to be scientific, but at the same time reject materialism and proclaim that the scientific method applies equally well to non-material existents, such as histories, ideologies, esthetic objects, psychical processes, and even to values? [2]

An answer to the first question lies in the fact that Newton, in contrast to Aristotle and even Democritus, was able to attribute to matter a character of its own, independently of qualitative Aristo-

[2] See especially *Naturalism and the Human Spirit*, edited by Y. H. Krikorian, Columbia University Press, 1944.

telian forms and final causes, and independently of its shape, motion, or rest. By use of modern mathematics Newton stated matter quantitatively, and under the influence of Aristotelian logic, by way of geometry, algebra, and, finally, calculus, he was able to state the material world as a deductive system. With this achievement Newton greatly strengthened the materialistic-rationalistic assumptions that (1) existents are intelligible only in so far as they belong to a deductive system, and (2) the only strictly deductive system in nature consists of bits of matter.

We will notice that under the influence of Descartes the scientists of the seventeenth century were able to save the qualities of the world only by putting them in the Christian soul and, consequently, by thinking of them as subjective, not objective. In fine, this meant that qualitative differences could not be known; they were not intelligible, for it could not be shown that they belonged to a strictly deductive logical system. Cartesian dualism, to be sure, implies that qualities, in so far as they have ontological status at all, are discontinuous with the objective world, the material world. This discontinuity makes room for either extra-naturalism or supernaturalism. Here we should recall once more that for the early modern scientists formal logic and epistemology, or the method by which we know, had implications for ontology. When clarified, this means that the moderns are much inclined to confuse methodology with metaphysics, for they are inclined to believe that the method by which we know is established on *a priori* grounds and that it determines the nature of the objects or processes known. (This is like believing that the method of controlling smallpox determines the nature of the disease.)

This Galilean-Cartesian-Newtonian dualism forced scientists and philosophers to make a new choice, and some chose to accept naturalism and continuity, which meant for them that ideas and qualities were epiphenomena. Others, who frankly accepted dualism, had to admit discontinuity and some form of extra-naturalism. Neither of these positions is satisfactory, and from Descartes' time to the present, philosophers of science have tried to work out a more satisfactory solution. After two hundred years of discussion we have conceded that if formal logic has implications for ontology, then a naturalist, or one who believes the scientific method is applicable to every field of experience, can be neither dualist nor pluralist. Hence through the process of reduction naturalists have remained monists—and, for the most part, materialists and mechanists. We have learned that dualism (or a pluralism) with its counterpart, discontinuity, is as unsatisfactory as a monism which refuses to accept qualitative differences in the world, for this refusal is, by im-

plication, an outright denial of evolution. Dualism presented to us the problem of devising a theory which openly admits that there are qualitatively different kinds of processes in the world, but at the same time shows how these qualitatively different processes are continuous with each other.

Now the greatest blow to the theory of discontinuity and to extra-naturalism in general is the Darwinian theory of evolution with its entailed theory—emergent evolution. If the theory of evolution has any implication for metaphysics at all, it has this; namely, different kinds of existents emerge from time to time and the process by which they emerge is continuous. Here we have a naturalistic theory which maintains that there are both qualitative differences *and* continuity. And the question immediately arises: Can such a theory be reconciled with scientific method? Or, since the theory of evolution seems to be universally accepted by scientists and even by many supernaturalists, probably the question should be: Can the scientific method reconcile itself with the theory of evolution. Obviously a reconciliation would require that we get rid of a certain kind of reduction that has been prevalent in scientific methodology. Actually, in the twentieth century under the influence of Darwinian evolution, a new philosophy of science is being developed, and a good part of it goes under the name "emergent evolution." The central problem of this new philosophy of science is to revise the statement of the nature of the scientific method so that the revised statement does not imply monism or metaphysical reductionism [3] and so that it is consistent with emergent evolution.

If the theory of evolution is to be accepted, then it follows that we must accept novelties, we must give up reducing one thing to another and assimilating effects to causes, and we must admit that from the standpoint of the early modern scientists there is discontinuity. The theory of evolution offers the greatest threat not to theology but to a monisic metaphysics and to certain assumptions of the scientific method. The theory of evolution calls for a revision of certain assumptions back of scientific methodology. First of all, we must give up the assumption, still held by many, that formal logic has definite implications for ontology. To assume that it does would be assuming that the goal of cognition can be reached on *a priori* grounds alone. Secondly, the object of knowledge, in other

[3] It is wise to distinguish between metaphysical reduction and methodological reductionism. If one believes the scientific method is universally applicable, then, of course, he believes there is basically one method and all others may be reduced to it. In this article we are concerned with metaphysical reductionism. See Ernest Nagel's article, "The Meaning of Reductionism in the Natural Sciences," in *Science and Civilization*, edited by Robert C. Stauffer, University of Wisconsin Press, 1949.

words, what we know when we know, is quite different than is assumed by mechanists, by finalists, by materialists, and by all reductionists. The objects of knowledge are processes lying temporally and possibly spatially between the recognizable (not knowable) forms. The objects of knowledge concern the functional relationship between what have heretofore been thought of as Aristotelian forms. I do not think this means that the Aristotelian forms do not exist, but it does mean that they can not exist apart from a context or apart from each other, and they are not objects of knowledge. From the standpoint of scientific methodology, Aristotelian forms are abstractions. To illustrate our point, due to the influence of the theory of evolution we no longer discuss a biological form apart from an environment and, *vice versa*, we no longer discuss an environment apart from that of which it is an environment. Here we see that "form" and "environment" are abstractions from a process which is the object of knowledge.

As over against reducing the emergent to the pre-existing conditions for its emergence, we now try to understand the process lying between the emergent and its past. A knowledge of that process enables us to conceive of the emergent as being continuous with, yet qualitatively different than, its past. The past of an emergent such as life, then, is not to be looked at as a purely mechanical or physico-chemical system, but is now to be viewed in relation to the emergent, and it is to be looked at as a condition for the emergence of the new form, even as the feudal order is now looked at as the basis for the emergence of the industrial revolution and the technological order. Not that life can be detected or even imagined on the basis of a study of the chemico-physical order, nor that the oncoming industrial world was clearly implied in an accurate statement of the feudal order by a medievalist living in it. It was only after men became cognizant of trying to change the old order and effect the new, or after the emergent order was a reality, that historians could look back and see the feudal order as a necessary condition for the new world. Yet the historian does not state the new order in terms of the old, nor does he reduce it to the old. We find in the Declaration of Independence that men are said to have inalienable rights—rights that were held even by our European ancestors. But apparently our ancestors were not cognizant of these rights, and it was only after the Americans wanted to make use of them that they found these rights in the old order as well. In this way the men of the American Revolution found a continuity, yet a difference, between the old order and the new.

This may be made into a scientific principle, due largely to the influence of the theory of evolution. The basis for the novel, the

emergent, as well as the invention, is to be found in its past, its history. But the history is a history of the emergent, for it is only because of the emergent that we can conceive of the past (or a part of it) as a history of anything. Without an acknowledgement of the emergent the past would have to be expressed as a purely mechanical, repetitious affair leading to nothing beyond itself and containing neither causes nor effects. Such a past has been expressed by some as mechanical change, and by others as a change which makes explicit what is implicit in the premises of an Hegelian syllogism, but neither account reconciles novelty with continuity.

The novel confers upon the past its character as history, and a scientific statement of the history of an existent requires that a statement of its past be identical with a statement of the conditions necessary for the emergence of the existent whose history it is. But the life process, say, can not be expressed in terms of processes known through our studies of inorganic objects. Rather, it is the presence of the life process that enables us to study the inorganic objects in the relation of means to ends; i.e., as a means to the life process. And it is because the inorganic processes serve as means to ends unlike these inorganic processes that we can study them as conditions for, or as causes of, something beyond themselves yet continuous with them. In fine, we study different levels of existents and qualitatively different objects from the standpoint of their conditioning or causal relationship to each other, and on the basis of this fact we have developed the functional theory of knowledge, according to which knowledge concerns that interval of time and those processes taking place between the old order and the advent of the new. This does not mean that we can no longer distinguish between pure research and applied science. Nor does it mean that the pure research scientist must have immediate concern for the ends to which his research may be applied. What it implies is that pure research scientists are concerned with that kind of knowledge that can be tested and, consequently, in a kind of knowledge that, through application, will lend itself to acquiring evaluated ends. In this way we find that pure research is continuous with both applied science and ends or values. Conversely, the evaluation and choice of ends is conditioned by and therefore continuous with pure research. Yet we must be careful not to reduce the evaluation and selection of particular ends to pure research which is indifferent to particular ends.

If I understand one of Bergson's main contentions, it amounts to saying that the scientific method can not reconcile itself with the metaphysical implications of the theory of evolution, and that by use of the logico-intellectual phase of scientific method we distort

the actual processes in nature by reducing them to static levels. He holds that science can not be used to "get inside of," or as a means of knowing, ongoing processes. Probably Bergson's criticism is valid when applied to the older reduction methods and when applied to a philosophy of science which holds that the objects of scientific knowledge are static Aristotelian forms.

But we are suggesting that the objects of scientific knowledge are not the static Aristotelian forms, but rather they are the processes involved in the adjustment that is taking place between the old order and the new. If this suggestion is carried out science will be concerned with "know-how," with that part of the world which enables us to effect desired ends through the use of given means. Knowledge will involve both the emergent and its past, and pure science or fundamental research will be conditioned by the assumption that it may be used as a means of effecting an end or a system not contained in that means. In this process of effecting new values we are not substituting the new order for the old, but rather the old order continues in the new even as the inorganic physico-chemical, mechanical processes continue in the living form. Scientific information, then, will be used in that process of adjustment lying temporally between the old world order and a previsedgoal or evaluated end. Scientific information will concern the functional relationship between means and ends. Or, to repeat, scientists will be concerned with the process of adjustment between the old order and the novel. And by virtue of scientific information tested in applied science, continuity will become an established fact.

Professor Mead writes:

> The social character of the universe we find in the situation in which the novel event is in both the old order and the new which its advent heralds. Sociality is the capacity of being several things at once.[4]

Here we see that Professor Mead's conception of sociality has been conditioned by both his theory of the nature of a self and by the theory of emergent evolution. If I understand Professor Mead's view as presented in *The Philosophy of the Present*, he is suggesting that we start with a knowledge of the development of the self and of the conditions under which the self as a process can continue, and that we use this knowledge as a basis for studying and understanding processes in the unminded inorganic world. Here we should not be led to believe that Mead is a type idealist nor yet a Spinozist after C. Lloyd Morgan. He is an evolutionist, a naturalist, but cer-

[4] *The Philosophy of the Present*, edited by A. E. Murphy, p. 49, Open Court Publishing Company, 1932.

tainly neither a materialist nor a mechanist. Methodologically he is an objectivist; metaphysically he is a pluralist.

A new philosophy of science answerable to naturalism and doing justice to novelties explicitly recognized in the theory of emergent evolution may well be based on the assumption that old orders persist in and constitute the conditions for the new, and that the new orders confer the character of history, that is, the character of means to ends, on the old. And if the older order persists in the new, even as the physico-chemical inanimate processes persist in the living organism, and if they constitute the necessary conditions for the existence of the new forms, then an approach to an understanding of these earlier conditioning processes (or means) existing presumably prior to that whose history they are, may well be made by first studying them in relation to the emergent whose arrival they condition. This is to say, for example, that an approach to an understanding of a human society devoid of a language and an understanding, finally, of the conditions under which life itself emerged, may well begin with the social nature of the self. Through the process of ideation and abstraction, then, we may be able to state the history of a novel event, or the means to any end, without either identifying the means with the end or reducing the end to the means. It seems to me that the first import of the pragmatic movement under the influence of the theory of evolution and the objective method developed by the experimental sciences is that reflective thinking is continuous with the biological organism, which in turn is continuous with a physical environment; yet each is a different kind of process. And the old question raises its head once more: How can one know processes of which he is not somehow a part? The answer is, he can not, and it is only because men and their minds are continuous with a natural history containing processes the like of which persists in the operation of minds, that they are themselves natural and can, therefore, through ideation and abstraction construct or know a non-living, non-mental world of physical, chemical processes. However, men can know these processes, not in isolation nor as Aristotelian forms, but only as means to ends. Of course, if one is to believe in evolution, then unlike either the Hegelian idealist or the Whiteheadian realist, one must grant that what is abstracted from the living, mental process may exist as a means apart from the process. It could exist as means apart from the process provided it is a part of the history of the process.

If one works from a knowledge of the nature of the self outward to a knowledge of the nature of selfless objects, he will be complying with the assumption that the selfless processes are intelligible to a self. Granting this assumption, it would be contradictory for one

who believes in continuity to assume also that the logical structure of the processes going on in conserving living organisms and finally a self are quite different from the logical structure of those processes going on in conserving selfless, inanimate objects. For one who believes in continuity, this latter assumption would be contradictory to the former because it would mean that one could not use his direct experience with the world in opposition to the self as a basis for knowing that world. But if we grant evolution and the thesis that the old order persists in the novel, then the continuity between the old and the new can be established, if it can be shown that the old order is a necessary condition for the new. This can never be done without somehow showing that the old persists in the new, even as chemical elements persist somehow in their compounds. To show that the old persists in the new involves showing also that the new attaches to the old as well, thus clarifying the social status of the new. But in order to avoid reductionism, we must give up the belief that intelligible things must belong to only one system or order.

If we were to pursue our thesis further it would lead to the question of whether or not scientific methodology has implications for metaphysics and whether, finally, the method is self-corrective and, if so, whether metaphysics is a derivative of this method in such a way that we can not be concerned with the former directly but only through scientific methodolgy. But this would lead us into metaphysics, and probably this is a good place to stop.

DAVID L. MILLER

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## LOGIC AND THE CONCEPT OF ENTAILMENT[1]

THE main thesis of this paper will be best approached by raising a question of the philosophy of logic (or "meta-logic") which most practicing logicians neglect to raise, presumably for the same reason as most mathematicians neglect to raise philosophical questions about mathematics: what is a *logical constant?* The problem of defining what is meant by a "logical constant" (logical term, logical sign) is crucial for a satisfactory theory of logical truth, since it seems impossible to analyze the latter concept without using the concept of a logical constant. Definitions of logical truth which do not use this concept are easily shown to be unsatisfactory. If,

[1] Slightly expanded version of a paper read at the meeting of the Pacific Division of the American Philosophical Association, at Mills College, December, 1949.

for example, we define a logical truth as a statement which is true by the very meanings of its terms, we are either defining a concept of psychology, not of logic, or else the definition is implicitly circular. The former is the case if we interpret the definition to say that anybody who understands what the constituent terms of the statement mean (who understands, in other words, what proposition the sentence is used to expressed) will assent to it; and the definition is circular if it tells us that the statement will turn out to be derivable from logic alone once the definitions of its terms are supplied. Again, it is implicitly circular to define a logically true statement as one that can not be denied without self-contradiction. For, surely, we want to say that $p$ is logically true if a contradiction is derivable from not-$p$ with the help of logic alone, without the use of factual premises. A definition which, *prima facie,* is free from the vice of circularity, is the following one: a logical truth is a true statement which either contains only logical constants (besides variables) or is derivable from such a statement by substitution (this is essentially the definition preferred by Quine).[2] It remains to be seen, however, whether this appearance will stand the test of analysis. The crucial question is obviously whether we could construct an independent definition of "logical constant."

The customary procedure of logicians who define their meta-logical concepts with respect to a specified postulational system is to define the logical constants simply by *enumeration.* But while such definitions serve the function of criteria of application, they clearly can not be regarded as analyses of intended meanings. To give an analogy, suppose we defined "colored" by enumerating $n$ known colors, i.e., colored $= C_1$ or $C_2 \cdots$ or $C_n$. And suppose we subsequently became acquainted with a new color which we name "$C_{n+1}$". On the basis of our definition it would be self-contradictory to say that $C_{n+1}$ is a color, or at any rate we could not say that it is a color in the same sense as the initially enumerated ones. Thus, so-called definitions by enumeration do not tell us anything about the meaning of the defined predicate, and the same is true of many recursive definitions. In fact, recursive definitions of "logical constant" given by logicians usually reduce themselves to an enumeration of logical signs with the addition that any sign definable in terms of these alone is also a logical sign. The problem of defining this basic meta-logical concept *explicitly,* however, can not be said to have been solved.[3]

[2] See "The Problem of Interpreting Modal Logic," *Journal of Symbolic Logic,* Vol. 12 (1947), pp. 43–48.

[3] A critical comment on the proposed solution by Professor Reichenbach, in his *Elements of Symbolic Logic,* will be found later in this paper.

Frequently the explanation is given that logical signs are purely *formal* (or syntactic) constituents of sentences, as though it were perfectly clear what was meant by that. But in classifying a sentence as having such and such a form we presumably point out what it has in common with other sentences. Why, then, could not, for example, the sentences "the sky is blue" and "all exam-booklets are blue" be said to be formally similar on account of sharing the constituent "blue," if it is all right to call the sentences "the sky is blue" and "the weather is nasty" formally similar because they contain the "is" of predication as a common element? If all we can reply is that the latter is a formal sign while "blue" is a descriptive sign, the above explanation leaves us no wiser than we were before.

Logical terms are, as usually understood, contrasted with descriptive terms, and if, therefore, an independent definition of "descriptive term" were at hand, a logical term could simply be defined as a non-descriptive term. It will appear, however, that such an independent definition presents grave difficulties. To begin with, it would not be clarifying to define a descriptive term as one that refers to an *observable* feature of the world as long as we have no clear criterion of observability. Are numbers, for example, observable features of the world? This could not plausibly be denied since numbers are observable properties of collections (counting is surely a mode of observation), although of a higher type than the properties which could be ascribed to the elements of the collection singly; and yet number-predicates would by most logicians be classified as logical terms, in view of the logistic reduction of arithmetic. Again, it would not be illuminating to define descriptive terms as those terms that may function as values of variables, where variables are divided, say, into individual, predicate, and propositional variables. For, if the logician were asked why, for example, no connective-variables, i.e., variables taking connectives as values, occur in his system, he would presumably reply that connectives are not descriptive terms. Perhaps we shall fare better if, instead of looking for an explicit definition, we try a contextual definition, like the following: $T$ occurs as a descriptive term in argument $A$, if $A$ would remain valid, respectively invalid, when any other syntactically admissible term is substituted for $T$ in all its occurrences. But this definition is open to objections from two angles: (1) if it is our aim to define "logical term" negatively, as "non-descriptive term," then this definition makes it impossible to define a valid argument as one such that the implication from premises to conclusion is true by virtue of the meanings of the logical constants involved. At least this is an objection from the point of view of those who are

not satisfied with accepting "valid" as a meta-logical primitive. (2) While the mentioned condition is no doubt necessary, in line with the idea that the logical validity of an argument does not depend upon the subject-matter which the argument is about (briefly, the idea that logic is a *formal* science), it is not sufficient. For example, the argument "$x = y$, therefore not-not-$(x = y)$" would remain valid no matter what relation were substituted for identity, and still one would not call "identical" a descriptive term. The point is that a term may occur inessentially in an argument without being descriptive. It should be mentioned, though, that this objection would lose its force if the distinction between logical and descriptive terms were altogether functional, i.e., if "$T$ is descriptive" should be regarded as elliptical for "$T$ is descriptive in $A$." But while we may in the end have to accept this possibility—which would lead to the, perhaps surprising, consequence that no *general* definition of logical truth could be given, let us first see whether we have better luck in beginning with a positive definition of "logical constant."

The process by which terms used in deductive arguments are actually identified as logical and as determining the logical form of the argument, is to replace constants with variables until only those constants are left over on whose meanings the validity of the argument depends. But the definition, thus suggested, in terms of *essential occurrence* in deductive arguments, has already been seen to be unsatisfactory, since one and the same term may occur essentially in one argument and inessentially in another. This is particularly obvious if our arguments contain defined terms: in "$x$ is a triangle, therefore $x$ has three sides," "triangle" occurs essentially, but in "$x$ is a triangle, all triangles have property $P$, therefore $x$ has $P$," "triangle" occurs vacuously. The explicit definition of "logical term" recently proposed by Reichenbach[4] seems to me, indeed, to break down because of this circumstance, viz., that the concepts "logical term" and "term occurring essentially in every necessary implication in which it occurs" do not have the same extension. Reichenbach attempts to clarify the distinction between logical and descriptive terms by means of the distinction between expressive and denotative terms. Denotative terms are values of individual, predicate, or propositional variables, and expressive terms are those which do not denote. A logical term is then defined as an indispensable expressive term, or one definable in terms of such. This definition leads, however, to such embarrassing consequences as that the connectives "or," "and," etc., are not logical terms. For while "or,"

[4] See *Elements of Symbolic Logic*, § 55.

for example, may be used, and mostly is used, as an expressive term, it could be used as value of a two-term predicate variable. Instead of writing "*p* or not-*p*" one would then write "or (*p*, not-*p*)." To be sure, as such a denotative term it is definable by means of the corresponding expressive term, but *ipso facto* the latter is not indispensable: definitional eliminability works both ways. If I understand Reichenbach correctly, he hopes to overcome this difficulty by defining "logical term" with respect to a language in which the following notational convention is observed: in a tautologous formula only such denotative terms may occur as have a vacuous occurrence. Thus we should not express universality by a second level predicate "*Un*" and write, for example, *Un*(*P* or not-*P*), since "*Un*" here would occur essentially, i.e., the function obtainable from this proposition by substituting an appropriate variable for the second level predicate would not be universally assertable. But this convention will not do the job of saving the initial definition since it presupposes that the concepts "logical term" and "term having an essential occurrence in tautologies" have the same extension, which they do not. To add an illustration to the one already offered, in the tautology "$p \vee q \supset p \vee q$," the logical term "$\vee$" occurs inessentially. And any tautology that contains defined predicates illustrates the possibility of essential occurrence, in tautologies, of non-logical terms.[5]

But even if these anomalous cases of vacuous occurrence of logical constants could be discounted for some reason, the general definition of "logical constant" in terms of "essential occurrence in deductive arguments" would be open to further objections. In the first place, since terms that would not normally be classified as

[5] In personal correspondence, Professor Reichenbach has answered my objection to his definition of "logical term" by pointing out that while logical terms may, indeed, occur vacuously in some tautologies they do not occur vacuously in all tautologies and that this is the reason why they can not be treated as values of variables. The suggested definition of "logical term" in terms of "term occurring essentially in *some* tautologies" leads, however, into the following dilemma. Either "tautology" is so used that only sentences in primitive notation could be tautologies, or more broadly (and more in accordance with ordinary usage) so that sentences containing defined terms could also be tautologies. In the former case, there could be no defined logical terms at all, since obviously a defined logical term can not occur essentially in sentences which contain no defined terms. In the second case, however, terms that are ordinarily regarded as descriptive, like "bachelor," would turn out to be logical, since they occur essentially in such tautologies as "all bachelors are unmarried men." If, to avoid the latter consequence, the definition of "logical term" be restricted to non-descriptive languages, it becomes circular again, since a non-descriptive language is presumably a language containing only logical constants.

"logical" may occur essentially in arguments containing defined terms, one would have to specify either that the arguments referred to are to be formally valid or invalid, or that they are to contain no definable predicates. This, however, is a real dilemma. Relatively to the first specification, the definition is circular, since an argument is said to be formally valid if it is valid by virtue of the meanings of the logical terms alone; and relatively to the second specification we get a concept which is applicable only to fictitious *completely analyzed* languages.

Instead of hunting any longer after a satisfactory general definition of "logical constant," let us now focus attention upon an important consequence of our mainly negative results. It has been seen that the discrimination of logical terms from descriptive terms amounts to identification of those terms in a given deductive argument on whose meanings the validity of the arguments depends.[6] But since any *formal* test of validity presupposes identification of logical constants (how could I know to what degree a given argument under scrutiny is to be formalized, unless I knew which terms may not be replaced by variables?), validity could not here, on pain of circularity, be established by a formal test. This suggests that no adequate epistemological account of the construction of semantic systems of logic can be given without countenancing the concept, held in disrepute by many logicians and philosophers, of *material* (= *non-formal*) *entailment*. It is widely held that entailment is essentially a formal relation, i.e., "'*p*' entails '*q*'" is held to be equivalent to "'if *p*, then *q*' is true by virtue of its logical form." But the latter statement is presumably equivalent to the statement "'if *p*, then *q*' is true by virtue of the meanings of the logical terms involved, all other ingredients occurring vacuously." But I have shown that judgments of entailment are presupposed by the very process which leads to the definition of the meta-logical concept *logical form*. For the only way in which this concept can be defined (if it be proper to call such a procedure "definition" at all) is to exhibit logical forms by the use of logical constants.

What, indeed, is the attitude of logicians when they are faced

[6] The frequently debated thesis that logic is a purely formal science in the sense that questions of logical validity can be answered without any appeal to meanings, is ambiguous. If the contention is that, provided no defined descriptive terms occur, the meanings of the descriptive terms are irrelevant to questions of logical validity, that is true enough—although, as I have suggested, possibly truistic. But if the claim is that no semantic rules at all need be consulted in such investigations, then "logic" is defined as a science that is competent to answer only questions of purely *syntactic* derivability; which therefore does not concern itself with relations of truth-values, and is therefore inapplicable to problems of logical validity as they arise in natural languages.

with an evidently non-empirical conditional statement which, though expressing an *a priori* truth, does not seem to be demonstrable with the sole help of the definitions of specified logical terms? Their endeavor may be described as the analysis of the non-logical concepts that seem to occur essentially by means of logical concepts, so that what appeared as a material entailment [7] reduces to a formal entailment once the proposition is fully analyzed. The obvious illustration of this procedure that comes to one's mind is the reduction of arithmetic to logic. To take a very simple example, since the relational predicate of arithmetic, "being greater than," does not belong to the vocabulary of logic, the sentence "if $G(x,y)$, then not-$G(y,x)$" could not, offhand, be said to express a formal entailment. This postulate of arithmetic, however, can be reduced to pure logic by defining numbers as properties of classes and defining the mentioned arithmetical relation in terms of the logical concepts "similarity" (= one-one correspondence) and "proper subclass." But the definition which enables such a reduction is obviously not an arbitrary stipulation; rather it expresses an analysis of a primitive concept of arithmetic. And I would like to know what else I judge, in judging this analysis to be correct, but that the proposition "the number of $A$ is greater than the number of $B$" entails and is entailed by the proposition "$B$ is similar to a proper subclass of $A$ (where $A$ and $B$ are finite classes)." But since the non-logical term "greater" occurs essentially in the corresponding conditional statement [8] this is definitely not a formal entailment. We have succeeded in formalizing the entailment from "$G(x,y)$" to "not-$G(y,x)$" only by accepting the material entailment just mentioned. I anticipate the objection that analysis of a concept belonging to an interpreted language must not be confused with *interpretation* of the primitives of a postulational system; that there is no sense in speaking here of an entailment holding between a proposition of arithmetic and a proposition of logic, since a postulate of uninterpreted arithmetic is no proposition. I submit, however, that if the logistic thesis is to be redeemed from the charge of triviality, it must be taken to assert that the terms of *interpreted* arithmetic are reducible to logic. For the thesis that uninterpreted arithmetic, as erected upon Peano's postulates, is logic could only mean one or

[7] The only reason why I use the qualifying adjective "material" rather than "synthetic," is that "material" is the natural term to use in contrast to "formal." My use of the word "material" in this context has, of course, nothing to do with its use in the phrase "material implication."

[8] By the conditional statement *corresponding to* the entailment-statement "'$p$' entails '$q$'" I mean the statement "if $p$, then $q$," which occurs in the object-language and does not contain names of propositions.

the other of equally trivial propositions: (*a*) assertions of the form "if the postulates are true, for a given interpretation, then the theorems are true, for that interpretaion" belong to logic; (*b*) Peano's postulates are satisfied by a logical interpretation. (*a*) is trivial since in this sense *any* uninterpreted postulational system is logic, (*b*) is trivial, since the logical interpretation is by no means the only one which satisfies Peano's postulates. Any class of objects which is the field of an asymmetrical one-one relation, which contains an object which does not stand in the converse relation to any member of the field, and whose members are characterized by properties hereditary with respect to the ordering relation, would be a model for Peano's postulates. If the model is sociological, for example, one could then with equal plausibility say that arithmetic is reducible to sociology.

If I were to permit myself the use of inexact metaphorical language in the midst of an austerely exact discussion, I would say that as logic expands by naturalizing more and more alien concepts in its economic household, one material entailment is used to kill off another, and *ipso facto* material entailments are there to stay. Furthermore, that we can reduce an apparently non-formal entailment to a formal entailment by supplying a correct analysis for the troublesome non-logical terms, is no surprise. For is not such reducibility a tacit *criterion* of a correct analysis? Would Russell and Whitehead, for example, have proposed those definitions of the primitives of arithmetic in terms of logical concepts which they did propose, if they had not enabled them to reduce, say, Peano's postulates to pure logic? Or, to take a simpler example, how could one controvert the claim that the admittedly necessary connection between the attributes "colored" and "extended" is at bottom a formal one, which would no doubt become evident if we knew the correct analysis of the attribute "colored"? Why, no such analysis would, of course, be judged correct unless it enabled the purely formal deduction of the attribute "extended."

I have deliberately postponed the dropping of the bomb to the concluding section of my paper, lest I prejudice from the outset my chances of getting an impartial hearing. Here is the bomb: if by a synthetic proposition you mean a proposition not deducible from logic alone, and by an *a priori* proposition you mean one that is not empirical, and if you define logic by means of an enumeration of a set of concepts called "logical constants"—to which there is no alternative in the absence of a satisfactory general definition of "logical constant"—, then you have to accept the conclusion that *synthetic a priori* propositions are acknowledged whenever the territory of logic expands. And it appears, then, that in "reducing" the

non-geometrical parts of mathematics to logic, the logisticians have not eliminated the *synthetic a priori*[9] from mathematics; they have merely dislocated it to those regions where mathematical and logical concepts make definitional contact. It may be clarifying to refer to an analogous logical situation in the reduction of one *empirical* science to another, say thermodynamics to mechanics. Once the temperature of a gas is defined as average molecular kinetic energy, thermodynamic laws containing the variable "temperature" are translatable into mechanical language. But in terms of the meaning attached to "temperature" in the language of thermodynamics before such a reduction took place, the proposition "the temperature of a gas is proportional to the average kinetic energy of its molecules" was obviously synthetic. As far as I can see, the only ground on which the suggested analogy between reduction in the empirical sciences and reduction in the formal sciences could be questioned, would be the following: one might hold that if a term of formal science $S$ is analyzed with the help of terms of formal science $S'$, the term of $S$ has no independent meaning; that it only receives a meaning by virtue of its definitional reduction to the terms of $S'$. In order to refute this view it will suffice to point out that it is equivalent to the view that such analyses are arbitrary stipulations. For to see the untenability of such a position—which is motivated by what I regard as an irrational dread of intuitionism —we only need to observe that according to it the question whether $S$ *is* reducible to $S'$ would be nonsensical; all one could sensibly ask would be whether it is convenient to reduce $S$ to $S'$.

In conclusion, I shall briefly reply to the comment, which I may well anticipate, that I have here argued in terms of an *absolute* concept of entailment which is an intuitionistic superstition as far behind the times as, say, the Newtonian superstition of absolute space, time, and motion. The thesis that "'$p$' entails '$q$'" is, if meaningful at all, to be construed as elliptical for "'$q$' is derivable from '$p$'

[9] I do not intend to resuscitate the ghost of Kantian epistemology by using this Kantian expression, and would be sorry if my terminology had this effect. I would justify my usage by pointing out that the term "synthetic" as well as the term "*a priori*" is in good standing with philosophical analysts who are fully emancipated from metaphysics; so why should the term "synthetic *a priori*" be disreputable? If, indeed, the term "analytic" is used so broadly, as, e.g., in C. I. Lewis, that any statement which can be established by reflecting upon meanings is analytic, then "analytic" becomes synonymous with "*a priori*" or "non-empirical" and the thesis of the analytic character of all *a priori* truth becomes irrefutable on account of triviality (see, on this point, my publications "Are All Necessary Propositions Analytic?" *Philosophical Review*, Vol. LVIII (1949), pp. 299–320, and "Logic and the Synthetic A Priori," *Philosophy and Phenomenological Research*, forthcoming).

in terms of the transformation-rules (including definitions) of a specified language-system" seems to me to involve a fatal paradox. The paradox is simply that through the construction of suitable definitions statements which would normally be held as logically independent could be *made* to entail one another. And if it be replied that those definitions, of course, must be adequate, the paradox is merely dodged, not solved. For, in order to determine whether a definition of *A* in terms of *B* is adequate, philosophers normally do not resort to statistical investigations of linguistic habits—if they did, how could the results of philosophical analysis obtained in one language-community be of any philosophical interest to philosophers in other language-communities?—, but instead ask themselves whether it would be *self-contradictory* to predicate at once *A* and non-*B*. But this is to ask whether a predication of *A entails* a predication of *B*. And it should be obvious that a consistent adherence to the criticized theory of entailment makes this procedure either circular or infinitely regressive.

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## BOOK REVIEW

*The Good Life.* E. JORDAN. Chicago: University of Chicago Press. 1949. vi + 453 pp. $5.00.

It is characteristic of Professor Jordan's philosophical work that his publications have dealt with concrete problems and that he has subordinated his system as a whole to its applications. This reflects not only good workmanship but good strategy, for a reader is more apt to take an interest in a system when he sees it in use, and any layman's first question to any philosopher is not "What are your principles?" but "What are you driving at?" We are already informed by Jordan's earlier publications, especially by his two important books, *The Aesthetic Object* and *Forms of Individuality*, what it is that he is driving at. And even in this general analysis of "the science of action" the concrete facts and forms of action dominate the work, so that the reader can readily understand how the author intends to apply his principles. But in *The Good Life* we evidently have the crown and culmination of his work, for here he has given us an introduction to his philosophy as a whole. And I scarcely know which to admire more, his careful construction of a general system of principles or his skill in giving to these principles an incisive bearing on the concrete problems of action. Let us con-

sider the systematic principles first, not in order to give them primary importance but in order to get them out of the way; for his principles are polemic and unpopular, whereas his portrait of the good life is classic and attractive.

Jordan's polemic is directed fundamentally against modern subjectivism in both metaphysics and morals: the world of action is, according to him, an objective order, thoroughly intelligible.

> The negative premise from which investigation must start is a sweeping rejection of the subjectivism and individualism which has governed ethical thinking throughout the entire period of "modern" thought. The human factor is only one of the factors in the eternal substance of things. And of the human the psychological and the subjective, or the merely natural, is a still smaller part. That everything significant in the human world should come from the motives and intentions and purposes, or the wants and needs and instincts, of human individuals or of individuals in group relations is merely absurd. [P. 123.]
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> No effect or result of subjective forces can be permanent, and morality must have its ground in that which abides. Interests are subjective forces. They have no moral significance. Morality has nothing to do with interests, so there is no moral interest. [P. 140.]
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> This subjective viewpoint ignores the fact that an act has whatever value it has in itself and of its own nature only as an element within the system of acts and does not derive its value either from the conscious "purpose" out of which it is supposed to issue or from the object or person in or upon which it issues. [P. 179.]
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> That this objective fact, which we shall in general call "culture," is itself in large part a product of experience, nevertheless does not prevent its being described as a fact over which experience has no final control but is itself the basis of whatever control may be exercised over experience in determining its direction, its content, and its issue. [P. 183.]
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> The good is this world made rational, or the world as rationalized, and the logical and factual necessity that it be and become rational is the *raison d'être* of action and the ground of all that action means. . . . There is nothing that we can say is good because it is or contains feeling which has not also elements of the objective world. [Pp. 189–190.]

Such an objectivism and rationalism implies an attack on all theories that regard the emotions as inherent in morality. Jordan is exceptionally uncompromising on this point:

> Feelings are meaningless when regarded as "springs to action," since there is no meaning to the expression "springs to action," except in the case of spontaneity in cognition. Besides, feeling is *in substance* passive, and nothing arises from it except when it is vitalized from without. Feeling is not a cause but a material; and in any case action has no cause, lying as it does in another realm than cause. [P. 116.]
>
> An act . . . becomes moral only when thought with respect to the world in which I live. It does not depend on relations to other persons. Pluralizing a subjective relation does not make it objective, cannot give it truth. This is the fallacy of all "social" theories. These theories merely multiply the fallacies of individualism. A group of persons means no more than an individual

so far as their subjective experiences are concerned, or until the relations of the individual are thought as mediated through the things of the world so that the group is constituted a corporate body. And then we are dealing with public relations and not experiences. But cultural "interests," as public, are not social but political, and morality becomes the science of public life. [P. 139.]

The supposed common will and public opinion upon which the order of society is assumed to be based is a myth; and the "fellowship of kindred minds" which "is like to that above" is exactly like that above—a pure imaginative abstraction which has no meaning whatever in terms of action. [P. 142.]

Thus both for individual and social action morality is a public structure. We become moral in so far as our acts are institutionalized or shaped into "corporate persons." These institutions, in turn, are moral in so far as they subordinate their interests to objective right or to cultural ends or values. Accordingly modern economic and religious institutions, which are least public, must be moralized by being made "political" or genuinely public.

There is in this system a radical revolt against empiricism in ethics. The world of action is a reasoned, public structure of right and good, independent of all emotional motivation, all interests, all "private" opinions (if genuinely public, opinions are more than opinion), and all welfare or happiness. Professor Jordan lists the chief previous attempts to conceive the moral order as a world-structure, as follows: Plato, Aristotle, Epictetus, Marcus Aurelius, Lucretius, The New Testament, Augustine, Thomas, Machiavelli, Hobbes, Spinoza, Hegel. Though this list begins with Plato and ends with Hegel, it includes such systems as those of Lucretius, Machiavelli, Hobbes, and Spinoza. The language which Jordan employs is reminiscent of Hegel and objective idealism, but it would be a serious mistake to label his philosophy as idealistic or to see in it merely a restatement of Hegel. Jordan's objectivism fits into no conventional pattern and must be studied in terms of its application and judged strictly on its own merits. It may well become a classic in the classical tradition, but now it is a fresh, original system of rational criticism.

It is this critical import or normative value of the system that deserves primary attention. For in less masterly hands a system so highly formalized and rationalistic could easily serve to justify all sorts of fanaticisms. Such objectivisms usually become highly subjective in application. But Jordan uses his system reasonably and gives us an incisive critique of both our ethical notions and our objective culture. The scheme on which he constructs this critique is his contrast between the personal, subjective, or "partial" virtues (Part III) and the corporate, objective, or "perfect" virtues (Part V). Intermediate and serving as a synthesis of these two orders of virtue lies the system of institutions, the moral world

(Part IV). A brief review of each of these three parts of the volume will serve to indicate what the author's objectives are in conceiving "the good life." It may also suggest to others, as it does to me, that we have here something analogous to Aristotle's *Ethics-Politics.*

The personal virtues (sympathy, generosity, friendship, and integrity) are those good types of action which refer primarily to the agent. The analysis of each shows that though the virtue is private or self-referring, logically self-enclosed, in practice it implies objectives which relate the agent and his acts to an external, moral environment, if the act is to be completed. Thus both man's physical processes and his conscious desires carry him beyond himself for their completion. Sympathy, when it is cultivated as a virtue, has three religious forms (charity, pity, love) in which the aim is to "internalize" the virtue, to make it sentimentally and motivationally an inherent form of spiritual or "inner" life. But thus conceived these virtues lack adequate objects and fail to "complete" themselves; in themselves, they are incomplete forms of goodness. The same is true of the political forms of sympathy: general welfare or happiness (the virtues of socialism), public opinion (the virtue of democracy), and mutual respect (the virtue of absolutism). In each case a beginning is made for morality in the person of the agent, but only a beginning. Some objective framework is needed. Jordan's comment on utilitarianism or welfare ethics is typical and pointed:

> The welfare or happiness doctrine gets its plausibility from its trick of noiselessly gliding back and forth between feeling and an object supposed to be the equivalent of feeling. And with this easy reference to objects, the utilitarian takes advantage of the tremendous pragmatic proof: the theory succeeds. As a consequence, utilitarianism has done more practical good in the world than ten theories that could render a reason. And in emphasizing the significance of natural and cultural objects in the explanation of action, the theory has come very near to a satisfactory ethical theory. What must be corrected is the rather naïve assumption that for an object to be ethically real it must abstractly correspond to some designatable feeling. [P. 199.]

In this connection, the analysis of friendship is crucial to Jordan's argument, for it raises the problem whether feeling itself can be objectified. If friendship has an adequate basis in "mutual interests," it might serve to justify the subjectivist position. But Jordan contends that what makes friendships enduring is not so much mutuality or the sharing of feelings as the common pursuit of *objects* of interest, and this leads him (as it did Aristotle) to believe that friendship must be institutionalized to be complete (pp. 225–226). Similarly the life of integrity or the virtue of intelligence

must be incorporated into public life. As friendship is to intelligence, so are the institutional forms of mutuality to the institutions of political or public life:

> Political institutions are our ultimate agencies of moral friendship because their function is to maintain the general conditions under which mutual life and action are possible. The original stuff of life, as raw stuff, is made up mostly of religious and industrial activity. These stuffs tend to be irrational when left to themselves, and it is only under the guidance of the political purpose that they can be brought to form and headed in a consistent direction. The forms of activity through which politics acts to guide and direct this inert stuff of religion and industry are the social and educational activities as institutionalized in the governmental system. The political motive operating through government to direct the mere momentum which life is, is the highest type of specifically moral function. [P. 229.]
>
> This corporate mind is here postulated by the demands of morality for the solution of certain problems. [P. 242.]

The corporate persons or institutional forms of morality are analyzed under the forms of the four cardinal virtues (wisdom, temperance, courage, and justice). Formally the virtue of wisdom (government) is supreme, for reasons stated above, but socially the culminating virtue is justice and the legal order:

> The *virtue* of justice lies in the objective and obligatory tie with which it binds the moral person to his universal and absolute self conceived as the basis of the corporate person of the state, and that the substance of justice is the system of cultural institutions through the functioning of which the tie of obligation is made the essence of the agent's good and is hence incorporated into the structure of the world. [P. 422.]

Jordan's philosophy of law, which develops in full this glorification of justice, was expounded in his earlier treatise on the subject; here it can be seen as the culmination of a moral philosophy.

The formal analysis of corporate virtues is supplemented by a critique of the basic institutions in terms of their functions in and contributions to the good life. This critique (Part IV) contains the gist of Jordan's application of his philosophy, his outline of the *content* of the good life; it is really the heart of the book. He discusses in succession family, industry, education, religion, art, and politics as organizations of special aspects of life. Though the moral analysis of each institution is succinct and schematic, it is exceptionally critical and forms the outline for an impressive philosophy of modern culture. It is impossible to review this outline in detail here, and I shall content myself with a single sample—the analysis of work and its implications for a theory of property, ownership, and control. It is clear from Jordan's frequent use of illustrations taken from this field that the theory of economic good is one of the author's most direct concerns. The central place of

"work" in a philosophy of action should be apparent to anyone, but few philosophers give to it the place it deserves. Work is the most elementary form of common action. The theory of the production of "things" leads Jordan directly into the theory that work produces common property, which by its nature is subject to public control. Jordan does not elaborate a theory of state socialism, but he certainly prepares the philosophical ground for it, as follows:

> The simplest and most immediate element that is common to men is property. By what is common to men we do not mean what is merely abstractly similar in their subjective qualities; we mean rather what is the basis . . . of the possibility of their lives and actions and thought and purposes, all that is characteristic of them as men, being brought to a condition of dynamic harmony in a common objective and external world in which all subjective purposes can find realization. And this basis is property. As this common basis of life, or basis of the common life, property becomes incorporate in institutions. As such it is . . . the only instrument of will, and the key to every act. As such, all property is common, or public; private property is a contradiction in terms. [Pp. 143–144.]
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> Modern society is built upon the idea that . . . what I can control you are excluded from in every particular. It is this false notion of exclusive control of the good that has prevented any significant degree of moral order in modern times. The good is not an object of control in any sense, and the moral good in a commercial age has become the multitude of physical goods defined by the process of barter. [P. 424.]
>
> The substance of the good and the content of the political state is neither goods nor interests nor human welfare. The ultimate content of the political structure is the *order* of all objective goods, and the place and function of subjective goods are incidental to the main principles by which the order of objects is determined. The traditional theories—democracy, monarchy, theocracy, anarchy, socialism, etc.—are all wrong in that they assume that the content of political order is always persons and subjective elements like interest, welfare, etc., . . . The position of the person is not unique or peculiar so far as the order of the whole is concerned. The person as an ethical concept is to be treated as in the same case with any other ethical concept, is to be regarded as an object whose place in the ultimate whole is to be determined. [P. 350.]
>
> It is within this system of public objects that all the types of cultural objects are brought to appropriateness or fitness to each other and through this appropriateness of objects that the harmony of purposes is achieved. This condition is called "peace" and represents the order of life in which the relations of persons are harmonized through the objects in which they are mediated. This is the moral polity, the corporate organization of life in the state of culture. [P. 300.]

The socialism here outlined is not modern; it is closer to Aristotle's "politeia" and its chief aim is to restore the arts and institutions of public life to their ancient dignity and unity.

I hope I have given enough specimens of Jordan's work to convince the reader that this moral philosophy is conceived in the grand manner of the classical tradition, and that it is at the same time a radical reconstruction of classical theories in the light of modern

knowledge and culture. It seems to me by far the most philosophical ethics that has appeared in America for many years and it certainly will repay students during many years to come for the hard study which it invites and deserves. It is not an easy text, but it is an excellent one. It is tantalizing, for on almost every page the reader finds propositions with which he would like to quarrel, but which are so carefully integrated into the argument of the system as a whole that he soon realizes he must face Jordan's philosophy as a whole, if he wishes to question any part of it. To be able to study and criticize a philosophy of such proportions and such unity is a great educational privilege.

Of the many points at which I should like to question this system I can raise only one at the end of this already long review. At what price is the objectivity of the moral order purchased? That objectivity and orderliness are values *in* and *of* a good life no moralist is apt to question. That morality can be *defined* in such a way that it is essentially the objective and orderly element in culture is also an intelligible position. But morality so conceived must be regarded sooner or later not *per se*, as if the good life could be identified with righteousness, but in relation to other kinds of goodness or to other values in the good life. For the institutions here subjected to a moral ordering exist in their own (subjective !) right as inherent elements both of culture and of goodness. To subject them all to the intrinsically moral art and institution of *politeia* is to submit them to *a* discipline which is not *the* absolute criterion of the good life. Such a discipline must take its place among the virtues and not monopolize the field. Similarly intelligence is a very important virtue and form of action, but the good life is more than sheer intelligence. In general, life robbed of subjectivity is genuinely robbed, though the moralist may not feel the loss. A complete philosophy of the good life should not conceive morality "pure" or lord it over life on the supposition that life is in substance mere "momentum." For life is *naturally* in a position to take revenge on moralists who do not "respect" it. A good life must ultimately feel good, and not merely be proved to be good. As an antidote to "emotive" theories of morals Jordan's defense of a rational, objective order is more than welcome. But to be faced with two extreme types of ethics, though it may give us a balanced diet, still leaves us far from the good life both in theory and in action. Fortunately Professor Jordan's good sense so pervades his work that even those readers who do not hunger and thirst after objectivity will find life better for having read his book.

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## BOOK NOTES

*The Philosophical Lectures of Samuel Taylor Coleridge. Hitherto Unpublished.* Edited by KATHLEEN COBURN. New York: Philosophical Library. 1949. 480 pp. $7.50.

This is a rich volume, whose fascination as a personal and historical document should not be allowed to outshine the gems of philosophic insight with which it is studded.

In the winter of 1818–1819, Coleridge delivered two lectures each week: one on the history of philosophy and one on various literary subjects. Remnants of the latter were edited by Professor T. M. Raysor (1930–1936), and now Professor Coburn has put us in her debt by resurrecting the shorthand notes which fortunately were taken of the former. She has performed a magnificent editorial job, using accessory manuscripts to fill out gaps in the text and adding ample notes and a stimulating "Introduction."

The result is a welcome addition to the library of Coleridge's valuable prose writings. The student of literature and the history of ideas will place these lectures in that period of Coleridge's life which produced *Biographia Literaria* (1817), *The Friend* (1818), and the posthumously published *Theory of Life,* and in the troubled era of Metternich, when the influence of German idealism and romanticism was so strongly felt in Europe. They document further Coleridge's familiar rôle as translator (with many a sea-change!) of German literature and ideas into English, and provide the only *verbatim* specimen of his famed eloquence on the lecture platform.

Nor will the more specialized student of philosophy find them unrewarding. Had they been published at the time, they would have provided an early (if not the earliest?) example in English of a history of philosophy animated by "one concentrating principle," which, while not easy to state simply, is perhaps best summed up in the phrases "organic unity" and "reconciliation of opposites." Coleridge used W. G. Tennemann's *Geschichte der Philosophie* (1798–1817) for much of his information, but often disagreed with the latter's interpretations and usually had an intimate knowledge of the primary sources himself. The fourteen lectures, divided into two sets, covered both ancient and modern philosophy: in the first half, his discussions of Pythagoras (III) and Plato (IV), as well as his famous analysis of all subsequent philosophies as Platonic or Aristotelian (V), are most noteworthy; in the second, starting with "The Fusion of Greek and Hebrew Thought in Christianity" (VIII) and continuing through a discussion of German philosophy (Leibnitz, Kant, Schelling) in which Descartes, Spinosa (*sic*), and Locke are also treated, hardly a page is lacking in fresh insights.

If J. H. Muirhead's *Coleridge as Philosopher* and A. D. Snyder's *Coleridge on Logic and Learning* had not already done so, this volume would establish Coleridge as a remarkably penetrating and original student of philosophy.

Not always neatly developed, his central themes are nevertheless clear, and often prophetic of later movements in which his works were a seminal influence. Maintaining a remarkable balance between religion and science ("heart and head"), he provides useful critiques of materialism, psychology, and the vitalist-mechanist controversy. He was a pioneer semanticist, coining new words in his attempts at "desynonymizing" old ones, and giving full credit to the medieval Schoolmen on this score. Though these, and other, important themes have been found heretofore scattered in Coleridge's prose, this volume now contains their most systematic development, and adds to his already considerable stature as a creative thinker.

SHOLOM J. KAHN

NEW YORK CITY

*Ideas y figuras.* FRANCISCO ROMERO. Buenos Aires: Editorial Losada, S. A. 1949. 149 pp.

This book by the Argentine philosopher, Francisco Romero, is a collection of previously published articles on different themes. The earliest article was published in 1943 and the latest in 1948. They make up ten chapters and are on the following "ideas and figures," beginning with the first chapter: (1) The career and especially the ideas of the Austrian psychologist, Otto Weininger, are discussed. (2) The second chapter shows a certain similarity between *Don Quixote* and Fichte's philosophy. (3) The late Pedro Henríquez Ureña (1884–1946), a native of the Dominican Republic and for many years professor in Argentina, is praised as a humanist. (4) Goethe's *Werther* is discussed. (5) Harold Höffding's philosophical activity is divided into three parts: namely, psychology and ethics, 1857–1887; history of modern philosophy, 1887–1895; and philosophy of religion and theory of knowledge, 1895 and after. (6) The three periods of modern philosophy are sketched, that is, the Renaissance, the seventeenth, and the eighteenth centuries. It is pointed out that technically the contemporary period, meaning since the eighteenth century, is in reality "postmodern." (7) All philosophy is a dialogue. The Renaissance, for example, was friendly to Antiquity but hostile to the Middle Ages. (8) This chapter commemorates the centenary of the death (1845) of the Argentine statesman, Bernardino Rivadavia. He is called "the founder of our free institutions, the

builder of a liberal, civil, democratic, and republican State." (9) Political liberty is held to be necessary if we are to be guaranteed other liberties. (10) Romero, in this final chapter, declares that the persistent problem of the university is "the coördination of culture into a great unity or system, and the union of this intellectual system and man; that is, developing an idea of human culture and bringing it to the human community in the best possible manner."

JOHN H. HERSHEY

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